

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

MARKETING & TRANSPORTATION Situation



U. S. D. A.
National Agricultural Library
Received

Procurement Section
Current Serial Records

MARKET FACTS

Item	Unit or base period	1970		1971		
		Year	4th qtr.	Year	3rd qtr.	4th qtr.
Farm-Retail Price Spreads: <u>1/</u>						
Retail cost	Dol.	1,223	1,207	1,244	1,261	1,254
Farm value	Dol.	476	442	477	482	484
Farm-retail spread	Dol.	747	765	767	779	770
Farmer's share of retail cost	Pct.	39	37	38	38	39
Retail Prices: <u>2/</u>						
All goods and services (CPI)	1967=100	116.3	118.6	121.3	122.0	122.7
All food	1967=100	115.0	115.2	118.4	119.6	119.4
Food at home	1967=100	113.7	113.4	116.4	117.7	117.2
Food away from home	1967=100	119.9	122.4	126.1	127.1	128.2
Wholesale Prices: <u>2/</u>						
Food <u>3/</u>	1967=100	113.2	111.7	115.5	115.8	116.6
Cotton products	1967=100	105.6	106.4	110.6	112.2	112.8
Woolen products	1967=100	99.5	97.4	93.4	92.6	92.1
Agricultural Prices:						
Prices received by farmers	1967=100	110	107	112	112	114
Prices paid by farmers, interest, taxes and wage rates	1967=100	114	115	120	120	121
Prices of Marketing Inputs:						
Containers and packaging materials	1967=100	108	110	114	114	113
Fuel, power, and light	1967=100	108	115	121	121	120
Services <u>4/</u>	1967=100	120	124	--	132	--
Hourly Earnings:						
Food marketing employees <u>5/</u>	Dol.	3.03	3.10	3.24	3.26	3.29
Employees, private nonagricultural sector <u>2/</u>	Dol.	3.22	3.29	3.42	3.46	3.49
Farmers' Marketings and Income:						
Physical volume of farm marketings	1967=100	104	134	109	111	147
Cash receipts from farm marketings <u>6/</u> ..	Bil. dol.	49.2	48.3	51.6	52.3	53.8
Farmers' realized net income <u>6/</u>	Bil. dol.	15.7	14.2	15.7	16.3	17.3
Industrial Production: <u>7/</u>						
Food manufacturers	1967=100	111.7	112.8	--	113.6	--
Textile mill products	1967=100	106.3	103.4	--	110.5	--
Apparel products	1967=100	97.8	95.1	--	97.8	--
Tobacco products	1967=100	100.0	102.1	--	98.4	--
Retail Sales: <u>8/</u>						
Food stores	Mil. dol.	86,114	22,171	--	22,405	--
Eating and drinking places	Mil. dol.	29,689	7,568	--	7,754	--
Apparel stores	Mil. dol.	19,810	5,025	--	5,161	--
Consumers' Per Capita Income and Expenditures: <u>9/</u>						
Disposable personal income	Dol.	3,358	3,410	3,581	3,611	3,632
Expenditures for goods and services	Dol.	3,007	3,037	3,199	3,226	3,261
Expenditures for food	Dol.	557	566	572	574	577
Expenditures for food as percentage of disposable income	Pct.	16.6	16.6	16.0	15.9	15.9

1/ For a market basket of farm foods. 2/ Dept. of Labor. 3/ Processed foods, eggs, and fresh and dried fruits and vegetables. 4/ Includes such items as rent, property insurance and maintenance, and telephone. 5/ Average hourly earnings of production workers in food processing, and nonsupervisory workers in whole-sale and retail food trades, calculated from Dept. of Labor data. 6/ Quarterly data seasonally adjusted at annual rates. 7/ Seasonally adjusted, Board of Governors of Federal Reserve System. 8/ Quarterly data seasonally adjusted, Dept. of Commerce. 9/ Seasonally adjusted annual rates, calculated from Dept. of Commerce data. Percentages have been calculated from total income and expenditure data.

MARKETING AND TRANSPORTATION SITUATION

CONTENTS

	<i>Page</i>
Summary	3
Farm-Food Market Basket Statistics	4
Substitute and Synthetic Foods with Emphasis on Soy Protein	12
Tobacco Leaf Marketing: Present and Future ..	15
Quarterly and Annual Data for the Market Basket of Farm Foods	19
Selected New Publications	27

• • •

Approved by
The Outlook and Situation Board
and Summary released
February 11, 1972

Principal contributors
Henry Badger
Denis Dunham

Marketing Economics Division

Economic Research Service

U.S. Department of Agriculture
Washington, D.C. 20250

• • •

The *Marketing and Transportation Situation* is published
in February, May, August, and November.

SUMMARY

Rising marketing margins and higher farm product prices are expected to lift food prices in 1972. Rising costs of marketing inputs will force marketing spreads above recent levels. Higher livestock prices will lead the rise in returns to farmers for farm foods. If marketing spreads widen about as much as they did in 1971 and returns to farmers strengthen, the retail cost of the market basket of U.S. farm foods may rise around 3½ percent compared with last year's rise of 1.7 percent.

In the fourth quarter of 1971, the retail cost of a market basket of farm-originated foods decreased to an annual rate of \$1,254, down slightly from the third quarter. Retail costs decreased in October, increased slightly in November, then rose substantially in December. For the quarter, the retail cost averaged nearly 4 percent above a year earlier, due mostly to sharp price increases for fresh fruits and vegetables, meats, and fats and oils products. Egg prices were down sharply.

Gross returns to farmers (farm value) for foods in the market basket averaged \$484 in the fourth quarter, up slightly from the third quarter and nearly a tenth above the relatively low level of a year earlier. Returns were up sharply for fresh fruits and vegetables, meat animals, and oilseed products, but down for eggs.

Marketing margins, as measured by the spread between the retail cost and farm value of the market basket, averaged \$770 in the fourth quarter. This was a little less than in the previous quarter, but a little above a year earlier. Spreads increased from the fourth quarter of 1970 for all product groups except meat and eggs.

Annual changes in the market basket totals from 1970 to 1971 included:

- Higher retail cost, by 1.7 percent or \$21,
- Little rise in farm value, by 0.2 percent or \$1,
- Increased marketing spread, by 2.7 percent or \$20,
- Smaller farmer's share of the market basket food dollar, down 1 cent to 38 cents.



**50th
National
Agricultural
Conference**

FARM-FOOD MARKET BASKET STATISTICS

Fourth Quarter 1971

Retail Cost: Retail prices of farm foods averaged lower in the fourth quarter of 1971 after rising sharply in each of the previous 3 quarters (table 1). The decrease resulted from the combined effect of seasonally larger supplies of some commodities and the wage-price freeze.

The retail cost of a market basket of farm-originated foods¹ averaged \$1,254 (annual rate) in the fourth quarter, down \$7 or 0.6 percent from the previous quarter (table 2). Moderately lower prices for frying chickens, bakery and cereal products, and sharply lower prices for fresh fruit contributed most to the decrease. Prices for most other farm foods rose slightly.

Retail costs of market basket foods varied widely within the fourth quarter. They decreased in October, increased slightly in November, and rose sharply in December (table 1).

Compared with the fourth quarter of 1970, the retail cost of the market basket averaged 3.8 percent higher. All product groups except eggs contributed to the increase. The largest increases were for fresh vegetables, 13 percent; fresh fruit and fats and oils, 7 percent; and meats, 5 percent. Egg prices were 9 percent lower.

Farm Value: The farm value of foods in the market basket edged higher in the fourth quarter of 1971. It averaged \$484 (annual rate), up 0.3 percent from the previous quarter. Farmers received 2 percent more for meat animals and 18 percent more for fresh vegetables, but less for most other products. Returns dropped 15 percent for poultry and 11 percent for fresh fruit.

Returns to farmers for market basket foods averaged 9 percent above the low level of a year earlier. Returns for meat animals were up 20 percent, fresh vegetables up 36 percent, fresh fruits up 12 percent, and oilseed products up 6 percent. In contrast, returns for eggs dropped 14 percent.

Farm-Retail Spread: The marketing spread narrowed in the fourth quarter of 1971, since retail food costs declined while farm value edged higher. The spread averaged \$770, 1.2 percent less than in the previous quarter. There was a decrease of 4 percent in the spread

for fresh vegetables, and a 15 percent decrease in the spread for fresh fruits. Spreads increased sharply for poultry and fats and oils products. Marketing spreads in the fourth quarter averaged 0.6 percent wider than a year earlier.

Farmer's Share: Farmers received an averaged of 39 cents of each dollar spent for market basket foods in the fourth quarter, 1 cent more than in the previous quarter, and 2 cents more than a year earlier.

Market Basket Review of 1971

Retail Cost: Consumers spent \$1,244 for a market basket of foods in 1971, up 1.7 percent from 1970 (table 3). This was by far the smallest annual increase since 1967 when the retail cost decreased. Retail cost jumped 4 percent in 1970 and 5.1 percent in 1969. Although the price freeze had a moderating effect during the last half of the year, prices were generally rising during much of 1971. However, because prices were high early in 1970 and then fell sharply during the latter half of that year, the increase in the annual average from 1970 to 1971 was relatively small. Retail food costs in December 1971 averaged 5.1 percent above December 1970 (table 1).

Although food prices have risen rapidly in recent years, the rise has not been as great as for other goods and services purchased by consumers. The retail cost of market basket foods has risen 15 percent since 1967, compared with an increase of 22 percent for all other items in the Consumer Price Index.

Farm Value: The farm value of foods in the market basket averaged about the same in 1971 as in 1970 (table 3). However, returns to farmers changed greatly among product groups. Lower average prices last year for meat animals, particularly early in the year, and eggs were about offset by higher farm prices for most other market basket products. Increases were particularly sharp for fats and oils, due mainly to higher soybean prices, and fresh fruits and vegetables.

Returns to farmers for market basket foods have risen 14 percent since 1967. Most of this rise occurred in 1968 and 1969. Returns in 1970 and 1971 averaged slightly lower than in 1969. During 1970, farmers' prices for farm foods peaked in the first quarter and declined to a low in the fourth quarter as supplies of hogs and a few other products rose. The opposite happened in 1971—returns to farmers rose each quarter and peaked in the fourth quarter as supplies of meat animals and fresh vegetables decreased.

Farm-Retail Spread: For the second consecutive year, widening marketing spreads accounted for practically all of the rise in the retail cost for market basket foods. The spread between the retail cost and farm value increased 2.7 percent from 1970 to 1971. This compares with a 7½ percent increase in 1970 and a 2.6 percent increase in 1969.

¹The market basket contains the average quantities of domestic, farm-originated food products purchased annually per household in 1960 and 1961 by wage-earners and clerical worker families and single workers living alone. Its retail cost is calculated from retail prices published by the Bureau of Labor Statistics. The retail cost of the market basket foods is less than the cost of all foods bought per household, since it does not include cost of meals in eating places, imported foods, seafoods or other foods not of farm origin. The *farm value* is the gross return to farmers for the farm products equivalent to foods in the market basket. The *farm-retail spread*—the difference between the retail cost and farm value—is an estimate of the total gross margin received by marketing firms for assembling, processing, transporting, and distributing the products in the market basket.

Table 1.--The market basket of farm food: Retail cost, farm value, farm-retail spread, and farmer's share of the retail cost 1/

Year and quarter	Retail cost	Farm value	Farm- retail spread	Farmer's share	Month	Retail cost	Farm value	Farm- retail spread	Farmer's share
	Dollars	Dollars	Dollars	Percent		Dollars	Dollars	Dollars	Percent
Average:					1969				
1947-49 ...	895	448	447	50	January ...	1,135	452	683	40
1957-59 ...	989	397	592	40	February ...	1,135	455	680	40
					March	1,143	467	676	41
1961	999	386	613	39	April	1,151	472	679	41
1962	1,009	395	614	39	May	1,166	490	676	42
1963	1,007	378	629	38	June	1,182	495	687	42
1964	1,009	377	632	37	July	1,195	493	702	41
1965	1,037	416	621	40	August ...	1,204	492	712	41
1966	1,092	445	647	41	September	1,199	483	716	40
1967	1,081	419	662	39	October ...	1,183	474	709	40
1968	1,119	441	678	39	November ..	1,195	492	703	41
1969	1,176	480	696	41	December ..	1,221	499	722	41
1970	1,223	476	747	39					
1971 <u>2/</u> ...	1,244	477	767	38	1970				
					January ...	1,226	501	725	41
1968					February ..	1,229	507	722	41
I	1,102	435	667	39	March	1,224	499	725	41
II	1,115	442	673	40	April	1,223	481	742	39
III	1,130	447	683	40	May	1,227	479	748	39
IV	1,128	440	688	39	June	1,228	481	747	39
					July	1,240	495	745	40
1969					August ...	1,236	470	766	38
I	1,138	458	680	40	September :	1,226	472	754	39
II	1,166	486	680	42	October ...	1,215	452	763	37
III	1,200	489	711	41	November ..	1,201	438	763	36
IV	1,200	488	712	41	December ..	1,206	437	769	36
1970					1971 <u>2/</u>				
I	1,226	502	724	41	January ...	1,208	453	755	37
II	1,226	480	746	39	February ..	1,218	475	743	39
III	1,234	479	755	39	March	1,226	474	752	39
IV	1,207	442	765	37	April	1,237	472	765	38
					May	1,242	474	768	38
1971 <u>2/</u>					June	1,255	477	778	38
I	1,218	467	751	38	July	1,266	487	779	38
II	1,245	474	771	38	August ...	1,266	487	779	38
III	1,261	482	779	38	September :	1,251	474	777	38
IV	1,254	484	770	39	October ...	1,245	475	770	38
					November ..	1,248	484	764	39
					December ..	1,268	492	776	39

1/ Retail cost of average quantities of farm-originated foods purchased annually per household in 1960-61 by urban wage-earner and clerical worker families and workers living alone, calculated from retail prices collected by the Bureau of Labor Statistics. Quarterly and monthly data are annual rates. Historical data are published in Farm-Retail Spreads for Food Products, Miscellaneous Publication 741, January 1972. 2/ Preliminary.

Table 2.-The market basket of farm foods by product group: Retail cost, farm value and farm-retail spread, fourth quarter 1971 ^{1/}

Item	IV 1971	Change from :			
		Previous quarter		Year ago	
		Dollars	Dollars	Percent	Dollars	Percent
Retail cost 2/					
Market basket	1,253.61	-7.29	-0.6	46.14	3.8
Meats	382.85	2.15	.6	17.90	4.9
Dairy	225.65	.07	4/	4.83	2.2
Poultry	49.39	-1.94	-3.8	1.36	2.8
Eggs	37.52	.39	1.1	-3.67	-8.9
Bakery and cereal ..	191.71	-1.58	-.8	3.44	1.8
Fresh fruits	53.54	-8.77	-14.1	3.40	6.8
Fresh vegetables ...	84.26	1.72	2.1	9.68	13.0
Processed fruits and vegetables	125.91	.07	.1	5.00	4.1
Fats and oils	45.24	.53	1.2	3.06	7.3
Miscellaneous	57.54	.07	.1	1.14	2.0
Farm value 3/					
Market basket	483.98	1.68	0.3	41.66	9.4
Meats	214.87	4.33	2.1	35.20	19.6
Dairy	105.25	.35	.3	.20	.2
Poultry	21.64	-3.80	-14.9	.45	2.1
Eggs	21.29	.11	.5	-3.61	-14.5
Bakery and cereal ..	29.47	-.40	-1.3	-.92	-3.0
Fresh fruits	16.68	-2.08	-11.1	1.78	11.9
Fresh vegetables ...	28.77	4.36	17.9	7.67	36.4
Processed fruits and vegetables	22.36	-.68	-3.0	-.31	-1.4
Fats and oils	14.64	-.48	-3.2	.82	5.9
Miscellaneous	9.01	-.03	-.3	.38	4.4
Farm-retail spread					
Market basket	769.63	-8.97	-1.2	4.48	0.6
Meats	167.98	-2.18	-1.3	-17.30	-9.3
Dairy	120.40	-.28	-.2	4.63	4.0
Poultry	27.75	1.86	7.2	.91	3.4
Eggs	16.23	.28	1.8	-.06	-.4
Bakery and cereal ..	162.24	-1.18	-.7	4.36	2.8
Fresh fruits	36.86	-6.69	-15.4	1.62	4.6
Fresh vegetables ...	55.49	-2.64	-4.5	2.01	3.8
Processed fruits and vegetables	103.55	.75	.7	5.31	5.4
Fats and oils	30.60	1.01	3.4	2.24	7.9
Miscellaneous	48.53	.10	.2	.76	1.6

^{1/} Data for additional quarters are shown in tables at back of this report.

^{2/} Retail cost of average quantities of farm-originated foods purchased annually per household in 1960-61 by urban wage earner and clerical-worker families and workers living alone, calculated from retail prices collected by the Bureau of Labor Statistics.

^{3/} Payment to farmer for equivalent quantities of farm products minus imputed value of byproducts obtained in processing.

^{4/} Less than 0.05 percent.

Table 3.--The market basket of farm foods by product group: Retail cost, farm value, and farm-retail spread, annual average 1970 and 1971 1/

Item	1971	1970	Change:	
			1970 to 1971	
	Dollar	Dollar	Dollar	Percent
Retail cost 2/				
Market basket	1,244.21	1,223.39	20.82	1.7
Meats	375.52	379.65	-4.13	-1.1
Dairy	224.32	217.94	6.38	2.9
Poultry	49.84	49.56	.28	.6
Eggs	38.05	44.13	-6.08	-13.8
Bakery and cereal ..	192.02	184.84	7.18	3.9
Fresh fruits	55.47	51.31	4.16	8.1
Fresh vegetables ...	83.03	81.09	1.94	2.4
Processed fruits and vegetables	124.38	118.75	5.63	4.7
Fats and oils	44.38	40.67	3.71	9.1
Miscellaneous	57.20	55.45	1.75	3.2
Farm value 3/				
Market basket	476.93	476.03	.90	0.2
Meats	206.07	209.33	-3.26	-1.6
Dairy	105.37	103.79	1.58	1.5
Poultry	23.66	23.04	.62	2.7
Eggs	21.78	27.64	-5.86	-21.2
Bakery and cereal ..	30.05	29.38	.67	2.3
Fresh fruits	16.90	14.38	2.52	17.5
Fresh vegetables ...	27.26	25.72	1.54	6.0
Processed fruits and vegetables	22.68	22.21	.47	2.1
Fats and oils	14.13	12.12	2.01	16.6
Miscellaneous	9.03	8.42	.61	7.2
Farm-retail spread				
Market basket	767.28	747.36	19.92	2.7
Meats	169.45	170.32	-.87	-.5
Dairy	118.95	114.15	4.80	4.2
Poultry	26.18	26.52	-.34	-1.3
Eggs	16.27	16.49	-.22	-1.3
Bakery and cereal ..	161.97	155.46	6.51	4.2
Fresh fruits	38.57	36.93	1.64	4.4
Fresh vegetables ...	55.77	55.37	.40	.7
Processed fruits and vegetables	101.70	96.54	5.16	5.3
Fats and oils	30.25	28.55	1.70	6.0
Miscellaneous	48.17	47.03	1.14	2.4

1/ Data for additional years are shown in tables at back of this report.

2/ Retail cost of average quantities of farm-originated foods purchased annually per household in 1960-61 by urban wage earner and clerical-worker families and workers living alone, calculated from retail prices collected by the Bureau of Labor Statistics.

3/ Payment to farmer for equivalent quantities of farm products minus imputed value of byproducts obtained in processing.

Last year marketing spreads rose each month from February to August. However, they decreased from September through November, roughly the period of the wage-price freeze. They widened again December.

The increase in marketing spreads in 1971 corresponded with a general increase in operating costs of food marketing firms. Although the rise was slowed by the wage freeze which began in August, earnings of employees in food marketing firms averaged \$3.23 per hour in 1971 or 7 percent above 1970. This about equaled the rate of increase between 1969 and 1970. Improvements in output per man-hour have offset very little of the rise in wages in recent years. Prices of containers, packaging materials, and other intermediate goods and services purchased by marketing firms also averaged substantially higher in 1971.

After-tax profits of food manufacturing corporations averaged 2.5 percent of sales in the first 3 quarters of 1971, up slightly from the same period of 1970, according to data compiled by the Federal Trade Commission and Securities and Exchange Commission. In contrast, after-tax profits of 15 leading retail food chains averaged 0.9 percent of sales in the first 9 months of 1971, down slightly from a year earlier.

Marketing spreads have increased every year since 1950 except for 1960 and 1965. Annual increases were smaller in the 1960's than in the 1950's—averaging 1.4 percent compared with 2.7 percent.

Farmer's Share: Increases in marketing spreads accounted for practically all of the rise in the retail cost of market basket foods last year. As a result, the farmer's share of the dollar consumers spent for these foods in retail food stores declined, averaging 38 cents in 1971, 1 cent less than in 1970, but 3 cents less than in 1969, the recent high (table 1). In the 1960's, the farmer's share ranged from 37 to 41 cents.

Outlook for 1972

Pressured by rising marketing margins and higher farm prices, retail prices for farm foods are expected to continue upward. Returns to farmers, particularly for livestock, may remain above the fourth quarter 1971 level throughout 1972. Likewise, marketing spreads will increase further. However, wage-price restraints imposed by the President's economic program may moderate the rise.

If prices received by farmers for market basket foods increase as expected and if marketing margins increase about the same as 1971's rate of 2.7 percent, the retail cost of the market basket of U.S. farm foods may rise around 3½ percent compared with last year's increase of 1.7 percent.

Operating costs of food marketing firms likely will rise further in 1972. Hourly earnings of food marketing employees will probably continue to rise. This rise will be only partly offset by improvements in output per man-hour. Prices of most inputs bought by marketing firms are also expected to rise.

Commodity Highlights

Beef: Continued strong consumer demand and slightly smaller per capita supplies of beef contributed to higher prices at both farm and retail levels in the fourth quarter of 1971. Retail prices for Choice beef averaged 106.6 cents per pound, up 1.2 cents from the previous quarter (table 4). The farm value of Choice beef increased 1.3 cents to 69.9 cents. As a result, the farm-retail spread averaged 0.1 cent smaller than the 36.8 cents of the previous quarter. While prices increased at both the farm and retail level during each quarter of 1971, marketing spreads were relatively stable during the year.

Retail prices for Choice beef averaged 9.3 cents per pound higher in the fourth quarter of 1971 than a year earlier. The farm value of beef was up 12.0 cents. Thus, the farm-retail spread was 2.7 cents lower than the record reached in the fourth quarter of 1970. All of the decrease was in the carcass-retail margin. The farm-carcass component of the farm-retail spread increased moderately.

Pork: During the latter half of 1971, production of pork per capita decreased from the relatively high levels reached in the first half of the year and the fourth quarter of 1970. As a result, returns to farmers for hogs strengthened considerably in both the third and fourth quarters of last year. The farm value of the quantity of live animal equivalent to a pound of pork sold at retail averaged 35.2 cents in the fourth quarter of 1971—up 6.8 cents from the fourth quarter of 1970 when hog prices dropped to their lowest level since the third quarter of 1963. Since the retail price of pork increased only 0.6 cent to 71.9 per pound, most of the increase in farm value was absorbed in the marketing margin. The farm-retail spread decreased 6.2 cents from a year earlier. The decrease was divided almost equally between the farm-wholesale spread, which includes the packer's margin, and the wholesale-retail spread which includes the retailer's margin.

Fresh Fruit: As seasonally large supplies of apples and citrus became available in the fourth quarter of last year, the retail cost of fresh fruits in the market basket dropped 14 percent below the previous quarter. Farm value decreased 11 percent while the marketing spread decreased 15 percent.

Despite the drop in prices in the fourth quarter, the retail cost of fresh fruit averaged 7 percent higher than a year earlier, farm value was up 12 percent, and the farm-retail spread was almost 5 percent greater.

Fresh Vegetables: Mixed supply conditions for fresh market vegetables caused both farm and retail prices to vary greatly during the fourth quarter of last year. Retail prices for fresh vegetables did not rise as much as prices received by farmers. Thus, the farm-retail spread contracted from the third of the fourth quarters. The retail cost of fresh vegetables in the market basket rose about 2 percent, farm value was up almost 18 percent, but the spread narrowed 4 percent. The spread for fresh

Table 4.--Beef, pork, and lamb: Retail price, carcass value, farm value, farm-retail spread, and farmer's share of retail price, annual 1969-71, quarterly 1970-71

Date	:	:	:Gross:	:	: Net :	:			:
	:Retail price	: Carcass	:farm	: Byproduct	: farm	Farm-retail spread			:Farmer's
	: per pound	: value	:value:	allowance	: value :	Total	Carcass-	Farm-	share
:	: 1/	: 2/	: 3/ :	4/	: 5/ :	:	: retail	:carcass :	:
:	----- Cents -----								Percent
:									
:	Beef, Choice grade								
1969	96.2	68.7	66.9	4.7	62.2	34.0	27.5	6.5	65
1970	98.6	68.3	66.3	4.8	61.5	37.1	30.3	6.8	62
1971	104.3	75.6	72.4	4.5	67.9	36.4	28.7	7.7	65
:									
1970									
Jan.-Mar. ...:	98.1	68.6	66.4	5.0	61.4	36.7	29.5	7.2	63
Apr.-June ...:	99.3	69.3	68.2	4.9	63.3	36.0	30.0	6.0	64
July-Sept. ...:	99.9	70.3	68.0	4.6	63.4	36.5	29.6	6.9	63
Oct.-Dec. ...:	97.3	64.9	62.4	4.5	57.9	39.4	32.4	7.0	60
:									
1971									
Jan.-Mar. ...:	100.2	72.8	69.1	4.2	64.9	35.3	27.4	7.9	65
Apr.-June ...:	104.8	76.3	72.8	4.6	68.2	36.6	28.5	8.1	65
July-Sept. ...:	105.4	76.1	73.1	4.5	68.6	36.8	29.3	7.5	65
Oct.-Dec. ...:	106.6	77.4	74.6	4.7	69.9	36.7	29.2	7.5	66
:									
:	Pork								
1969	74.3	58.5	45.5	3.2	42.3	32.0	15.8	16.2	57
1970	78.0	58.7	42.9	3.4	39.5	38.5	19.3	19.2	51
1971	70.3	52.1	35.0	2.7	32.3	38.0	18.2	19.8	46
:									
1970									
Jan.-Mar. ...:	81.8	64.7	52.3	4.2	48.1	33.7	17.1	16.6	59
Apr.-June ...:	80.0	60.6	45.4	3.5	41.9	38.1	19.4	18.7	52
July-Sept. ...:	79.0	58.0	43.0	3.3	39.7	39.3	21.0	18.3	50
Oct.-Dec. ...:	71.3	51.5	30.8	2.4	28.4	42.9	19.8	23.1	40
:									
1971									
Jan.-Mar. ...:	69.2	50.2	33.2	2.6	30.6	38.6	19.0	19.6	44
Apr.-June ...:	68.8	49.9	32.5	2.6	29.9	38.9	18.9	20.0	43
July-Sept. ...:	71.3	52.8	36.5	2.8	33.7	37.6	18.5	19.1	47
Oct.-Dec. ...:	71.9	55.4	38.0	2.8	35.2	36.7	16.5	20.2	49
:									
:	Lamb, Choice grade								
1969	100.7	74.8	66.9	7.6	59.3	41.4	25.9	15.5	59
1970	105.5	73.8	65.1	6.4	58.7	46.8	31.7	15.1	56
1971	109.9	75.1	63.1	5.9	57.2	52.7	34.8	17.9	52
:									
1970									
Jan.-Mar. ...:	104.8	73.6	68.1	8.0	60.1	44.7	31.2	13.5	57
Apr.-June ...:	105.1	73.5	65.1	6.4	58.7	46.4	31.6	14.8	56
July-Sept. ...:	106.2	75.0	65.7	5.6	60.1	46.1	31.2	14.9	57
Oct.-Dec. ...:	106.1	73.3	61.4	5.5	55.9	50.2	32.8	17.4	53
:									
1971									
Jan.-Mar. ...:	106.5	69.0	58.9	6.0	52.9	53.6	37.5	16.1	50
Apr.-June ...:	108.5	76.7	66.1	6.3	59.8	48.7	31.8	16.9	55
July-Sept.....:	112.1	79.3	65.5	5.6	59.9	52.2	32.8	19.4	53
Oct.-Dec. ...:	112.6	75.2	61.7	5.6	56.1	56.5	37.4	19.1	50

1/ Estimated weighted average price of retail cuts. 2/ For quantity equivalent to 1 lb. of retail cuts: Beef: 1.41 lb. of carcass beef; pork, 1.07 lb. of wholesale cuts; lamb, 1.18 lb. of carcass lamb. 3/ Payment to farmer for quantity of live animal equivalent to 1 lb. of retail cuts: Beef, 2.28 lb.; pork, 1.97 lb.; lamb, quantity varies by months from 2.42 lb. in May to 2.48 lb. in October. 4/ Portion of gross farm value attributed to edible and inedible byproducts. 5/ Gross farm value minus byproduct allowance.

vegetables usually moves in the same direction as farm value.

As a result of cool weather in Arizona and California which delayed harvest and reduced production, lettuce prices at both farm and retail reached record levels in the fourth quarter (table 5). Prices for many other fresh vegetables also were up substantially. In contrast, prices for "hardware vegetables"—potatoes, onions, and carrots—dropped in the fourth quarter from the previous quarter and partially offset price increases for other vegetables.

Compared with a year earlier, the retail cost of the fresh vegetable group in the fourth quarter averaged about 13 percent higher, farm value was up 36 percent, and the farm-retail spread widened about 4 percent.

Fats and Oils: The farm value of fats and oils products rose 17 percent from 1970 to 1971, reflecting a sharp increase in prices received by farmers for soybeans. Marketing spreads increased by 6 percent. At a result, the retail cost of the fats and oils group was up about 9 percent in 1971. In the 1960's, prices and margins for fats and oils products were relatively stable.

REVISED SERIES

Periodically we revise the market basket statistics to improve accuracy. When these revisions are made the entire historical statistical series is revised to maintain comparability. Such a revision was recently made. Thus, data for the market basket and product groups as well as statistics for many individual products contained in this issue may differ from those previously published.

In revising the market basket, we used improved techniques to assure comparability with the historical series. Farm product equivalents for several products were changed to improve accuracy of estimates of farm value. In addition, retail costs of meat products group were revised to more adequately reflect the effect of increases in sales volume at special retail prices. This revision was made to incorporate earlier announced revisions in the beef and pork series into market basket totals. We also reweighted the market basket to include a few additional products.

Long-term trends in the market basket statistics, methodology for computing the series, and historical data are presented in *Farm-Retail Spreads for Food Products*, Economic Research Service, Misc. Pub. No. 741, January 1972. You may obtain copies of this report by writing to:

United States Department of Agriculture
Office of Management Services
Division of Information
Publications Unit
Washington, D.C. 20250

Table 5.--Changes in retail price, farm value, and farm-retail spread for selected market basket foods, fourth quarter 1971.

Item 1/	Change from:			Change from:		
	IV	Previous	Year	IV	Previous	Year
	1971	quarter	earlier	1971	quarter	earlier
	Cents	Percent	Percent	Cents	Percent	Percent
	Butter, pound			Cheese, American, ½ pound		
Retail price	87.5	0	0	53.2	0.2	4.1
Farm value	58.0	1.2	-7.1	22.8	0	1.3
Farm-retail spread	29.5	-2.3	17.5	30.4	.3	6.3
	Milk, sold in stores, ½ gallon:			Chicken, frying, pound		
Retail price	59.2	0	2.1	40.5	-4.3	3.3
Farm value	29.7	.7	1.7	17.4	-16.7	2.4
Farm-retail spread	29.5	-.7	2.4	23.1	7.9	4.1
	Eggs, large grade A, dozen			Bread, white, pound		
Retail price	52.0	1.0	-8.9	24.8	-1.6	.4
Farm value	29.5	.3	-14.5	3.5	0	0
Farm-retail spread	22.5	1.8	-.4	21.3	-1.8	.5
	Apples, pound			Oranges, dozen		
Retail price	20.7	-24.5	6.7	99.7	-.9	6.3
Farm value	7.3	-5.2	10.6	23.6	-9.2	8.8
Farm-retail spread	13.4	-32.0	4.7	76.1	2.0	5.5
	Lettuce, head			Tomatoes, pound		
Retail price	40.5	23.1	28.6	46.7	8.6	13.9
Farm value	16.9	76.0	87.8	20.5	27.3	35.9
Farm-retail spread	23.6	1.3	4.9	26.2	-2.6	1.2
	Orange juice, frozen, 6 oz can:			Margarine, pound		
Retail price	24.9	1.6	14.2	32.9	0	5.8
Farm value	8.0	0	9.6	10.9	-4.4	5.8
Farm-retail spread	16.9	2.4	16.6	22.0	2.3	5.8
	Potatoes, 10 pounds			Peas, frozen, 10 ounces		
Retail price	81.5	-11.3	.7	22.2	0	3.7
Farm value	18.6	-20.9	-7.5	3.8	0	2.7
Farm-retail spread	62.9	-8.0	1.8	18.4	0	4.0

1/ Price spreads for additional farm foods are shown in tables at back of this report.

SUBSTITUTE AND SYNTHETIC FOODS WITH EMPHASIS ON SOY PROTEIN

Allen J. Baker and William W. Gallimore
Marketing Economics Division

ABSTRACT: Dairy, citrus, and other food products have faced stiff competition from an array of substitute and synthetic products in the past few years. New products, made primarily from soy protein, are expected to compete with meat to a limited extent in the 1970's. The most successful products will probably be those that serve as extenders for meat in processed items. These extenders could possibly replace from 10 to 20 percent of the meat in processed items by 1980.

Keywords: Substitutes, soy products, meat

The present and projected uses of many substitute and synthetic products are examined in an ERS report soon to be published. Meanwhile, here is a summary of the market penetration by substitutes and synthetics for selected food items with special emphasis on the development of soy protein as a substitute for red meat and red meat products.

Butter, Milk, and Juice Substitutes

Vegetable oils are used extensively as substitutes for animal fats in human foods. Margarine accounts for more than two-thirds of the table spread market. Nondairy coffee whiteners have about 35 percent of the light cream market, and substitute toppings have more than half the whipped topping market. Price and physical characteristics such as flavor and uniformity of fats have been major factors governing choice of ingredients by manufacturers. Vegetable oil will probably continue to capture markets from animal fats in food uses although the rate of substitution is declining in many markets.

Two classes of substitutes for fluid milk have been promoted—filled and synthetic milk. Filled milk replaces the milk fat with vegetable fat while the synthetic product does not contain any milk component except in some cases sodium caseinate, a chemical product derived from milk. Filled milk has been sold in at least 18 Federal order markets. Two of these markets, Arizona and Oklahoma, have accounted for most of the filled milk sold. Sales reached a peak in these markets in 1968 and have since declined. Total sales of filled milk amounted to a fraction of 1 percent of U.S. sales of fluid, whole milk. However, substitutes for fluid whole milk could increase their market share if more acceptable products are developed.

In the past few years, citrus juices have faced stiff competition from an array of substitutes and synthetics. Substitutes are citrus-flavored drinks and may contain both natural and synthetic ingredients. They are available in cans, bottles, and cartons with the product either liquid or frozen. Synthetic drinks do not contain any natural citrus solids and are available as powders or as frozen concentrates. Synthetics have done better than

substitutes, but together they now account for about 21 percent of the 600-million gallon retail citrus beverage market. However, they will probably gain little, if any, additional shares of the citrus juice market in the next 10 years.

Red Meat Versus Soy Products

Red meat has been considered immune to market penetration by substitutes. Consumers like meat, and it has been difficult to duplicate meat's flavor, texture, and nutritional qualities. Vegetarians first developed meat substitutes to add variety to their meals. Firms closely allied with these groups developed meat substitutes from soybeans. Recent advances in flavoring, coloring, and texturing have added to the acceptability of these products for other consumers. Adverse publicity over animal fat in the diet and the lower cost of vegetable protein compared to meat protein have more recently provided an additional incentive to develop protein foods to replace meat.

Soybean meal is the major ingredient in meat substitutes because of the availability, lack of toxicity, amino acid content, and low price of soybean meal compared to some other sources of vegetable protein. Soybeans are around 38 percent crude protein—a relatively high content compared with other oilseeds. Different methods of processing soybean meal yield products that vary in percentages of protein. Soy flour and grits contain 40 to 55 percent crude protein and are used in baked goods, sausages, and pet foods. Soy concentrate, made by further processing meal, contains 60 to 70 percent crude protein and is used in manufacturing textured products, processed meats, and baby and health foods. Soy isolates, the most highly processed soy protein product, contain more than 90 percent crude protein and are used to make meat analogs which resemble specific meats in texture, color, and flavor. Soy flour and grits are the least processed of the products and have the lowest price, 5.5 to 11.5 cents per pound. Isolates are the most highly processed and costly with prices ranging up to 45 cents per pound (table 6). Flour and grits account for most of the soy products used, but in meat products they have been used only at low levels primarily as a binder.

In addition to these functional uses, soy products are used in two ways, as partial substitutes or extenders for meat in processed forms and as analogs. To be successful as meat substitutes, soy products require texturing that will withstand cooking and processing. Items are textured by being extruded or spun. Extruded items made from soy flour are textured by high-temperature, high-pressure extrusion. The fibers for spun items are made from isolates using somewhat the same technique used in spinning rayon or nylon. Because of differences in raw materials and processing techniques used, products textured by extrusion are less expensive than those textured by spinning. But many of the meat analogs can only be fabricated using the spun products.

The resulting meat substitutes may be somewhat lower than beef in one or more amino acids. A better amino acid balance may be obtained by adding amino

acids from other sources, mixing with other vegetable proteins, or mixing with meat or other animal materials. For most of the U.S. population, soy proteins could replace some meat and there would still be sufficient proteins in the diets from meat, eggs, and dairy products to compensate for the lower ratio of amino acids in the soy protein products.

Projected Use of Soy Proteins as Meat Substitutes

Soy protein products probably will continue to be used more as extenders than as analogs. One reason is that housewives have long used oatmeal and other products as extenders in meat loaf and other foods to reduce the cost and improve the texture of meat dishes. Soy protein products are also low in cost and their functional properties can improve processed meat items. Soy proteins added to ground meat products reduce

Table 6.--Estimated U.S. production of soy protein foods, 1970

Soy protein food	Protein content	Price per pound	Estimated 1970 production	Current uses
	Percent	Cents	Million lb.	
Flour and grits <u>1</u> /	40 - 55	5½ - 11½	500 - 600	Ingredients for baked goods, dog foods, sausages
Concentrates	60 - 70	18 - 25	35	Manufacturing textured products; ingredient in processed meats, baby foods, health foods
Isolates	90 - 97	35 - 45	25	Manufacturing analogs, for use in comminuted meats, such as meat loaf, frankfurters, etc.
Textured items ...				
Extruded	50 - 55	28 and up	30	Bacon strips and bits; pork, beef, chicken, fish, ham, and similar foods
Spun	90+	50 and up		

1/ Flour and grits, although handled differently and sold for different uses, are essentially the same product. Both are ground defatted flakes. Grits are course ground (larger than 100 mesh); flour is fine ground (smaller than 100 mesh).

cooking losses because the soy product absorbs the water and fat that cook out of meat. The cooked product retains more of the natural juices if soy extenders are added. In addition, soy extenders usually are less than half the price of meat. Soy protein extenders do not change the flavor of the original product at moderate usage levels, although this depends on the level of use and the type of extender. For most processed meat products, standards of identity and labeling regulations currently limit the use of soy protein extenders to relatively small percentages.

Many food items are processed into forms that require only cooking before serving. In many of these products, processors have a choice of ingredients and may use more soy extenders because of their lower price. Already some institutions facing fixed budgets are using soy-based meat substitutes because they reduce the total cost of meals. Soy extenders may make further gains in away-from-home eating establishments because they do not come under the same labeling requirements as food sold at retail. In 1971, the USDA permitted certain soy extenders to be used as part of the protein requirement in the school lunch program.

If standards of identity and labeling regulations are modified over time, soy extenders should find increased uses in ground meat products, including sausage, hamburger, luncheon meat, hot dog, certain types of frozen dinners, and canned products. Meat analogs may be used to replace meat in dry quick-fix meals, frozen dinners, and canned products.

Meat analogs are not widely used now nor are they expected to make major gains in the next 10 years.

While approaching the flavor and texture of meat, they are priced competitively with natural meat on a cooked basis and therefore seem high-priced to consumers. In addition, a product that is intended as a substitute for steaks, roasts, and other meat cuts has to overcome a prestige image consumers have of these meat items in addition to flavor, texture, and cost.

Projection of the quantity of meat required for processed items was made for 1980. A low and high level of market penetration by soy proteins was assumed for each major processed meat item and there were summed for all processed meat to get the proportion of meat displaced at each level. Meat replaced by soy protein products in processed items ranged from 10 percent at the low level to 20 percent at the high level. The higher market projection implies that meat will become even more expensive relative to soy protein than it is at present.

The high and low market projections were converted to kinds and numbers of animals. For 1980, the projections indicate a range of 4 to 8 percent reduction in the number of animals that otherwise would be needed to supply projected red meat requirements (table 7). The impact of this reduction would probably be greater on cow and imported beef used in processed items. Competition from soy products would be much less for the Choice cuts.

Protein from soybeans apparently find increased use as extenders for meat and in processed items. Even so, we will need about 20 percent more beef than at present to supply our needs in 1980.

Table 7.--Projected impacts of soy substitution in processed meat on kind and number of livestock replaced, 1980

Item	Meat replaced	Animals replaced	Proportion of estimated 1980 production
	Million lbs.	Thousands	Percent
<u>Low level 1/</u>			
Cattle and calves ..	1,166	1,943	4.0
Hogs	602	3,984	4.0
Sheep and lambs	18	357	4.0
<u>High level 2/</u>			
Cattle and calves ..	2,471	4,118	8.5
Hogs	1,275	8,444	8.4
Sheep and lambs	38	757	8.5

1/ Projection assumes that 10 percent of meat required for processed meat items replaced by soy products.

2/ Projection assumes that 20 percent of meat required for processed meat items replaced by soy products.

Donn A. Reimund and N. A. Wynn
Marketing Economics Division

ABSTRACT: *The leaf tobacco auction marketing system faces problems of excess capacity and underutilization of resources, resulting in unnecessarily high marketing charges. A number of factors are causing changes in all sectors of the tobacco industry, to which the leaf marketing system must adapt. Important among these are mechanization of production, technological innovations at the manufacturing level, domestic demand factors for tobacco products, and developments affecting international tobacco markets.*

KEYWORDS: *Tobacco, marketing, mechanization.*

The 1970's may see major changes in the tobacco industry. Technological advances at several levels of production, processing, and manufacturing; shifts in domestic demand for tobacco products; and changing competitive conditions in international markets all point to a future tobacco industry that may bear little resemblance to the industry of today. New technology and mechanization in the tobacco industry, and the resulting displacement of workers, could constitute a problem of substantial economic and social proportions unless new employment opportunities are developed. This was the subject of a recent ERS study.¹ In addition, changes in the industry will create problems for the tobacco marketing system. This article discusses the characteristics and problems of tobacco auction markets and appraises the major factors that will influence future marketing developments.

Characteristics of Tobacco Auction Markets

The auction market is the most common method of selling tobacco with at least 95 percent of total U.S. production passing through the system. Advantages of the auction method are rapid sales and exposure of each lot to a large number of potential buyers. All tobacco sold at auction (except Maryland) is subject to production controls and price supports which tend to stabilize the market and assure the grower of a fair price for all his merchantable tobacco. Government inspectors describe each lot of tobacco and market news provides reliable price information enabling growers to accurately determine if the price offered is reasonable.

In 1970 the United States had 176 tobacco auction markets with nearly 900 warehouses. Consideration is restricted to flue-cured and burley tobacco which make up about 90 percent of total sales.

Burley

Burley tobacco is sold on 61 designated markets in 382 auction warehouses. Burley markets open in late November and use 71 sets of buyers until some of the markets are closed.² Unlike flue-cured, burley, which is sold during the winter, can be held without molding until processed for storage, referred to as redrying in the trade. Limited holding space in redrying plants limits the pace of sales. Allocation of sales time among warehouses in a market is usually based on warehouse floor space relative to the total for that market and sales history. This method of allocating sales encourages the building of excess warehouse space. To sell the average basket (weighing 408 pounds) of 1970 crop burley, nearly 500 square feet of floor space was available, 13 times the space that was used to sell an equal amount of tobacco on the Ontario, Canada, flue-cured auction market.

The Canadian market operates with 3 warehouses, each containing 56,000 square feet of warehouse space, and each capable of selling up to a million pounds of tobacco daily. Nearly 200 million pounds of tobacco are sold through these warehouses annually. The 382 U.S. burley auction warehouses annually sell slightly over 500 million pounds. Annual sales in 431 U.S. flue-cured warehouses average a little over a billion pounds.

Baskets of burley tobacco can weigh up 700 pounds, but sales per set of buyers are limited to either 340,200 pounds, not to exceed 1,800 baskets per 3½-hour day, or 1,260 baskets without poundage limitations. Since 1970, these markets have been limited to a 4-day week. Markets operating on the basket limit frequently sell twice the daily volume of those using the poundage limitation. The poundage limitation is chosen by markets in areas where growers have small acreage.

¹ Potential Mechanization in the Flue-Cured Tobacco Industry with Emphasis on Human Resource Adjustment, AER-169, ERS, USDA, September 1969.

² An "adequate set of buyers" is defined in Regulations of the Secretary of Agriculture under the Tobacco Inspection Act of August 23, 1935, as amended September 17, 1969, as 5 or more buyers representing 5 or more companies or buying organizations who could reasonably be expected to purchase at least two-thirds of the total U.S. production of a given kind of tobacco.

Underutilization of marketing facilities increases marketing charges. For example, marketing charges for Ontario producers are about 1 percent of the tobacco value compared with 4 percent for burley producers.

Flue-cured

Flue-cured tobacco is sold on 94 markets in 431 warehouses. During the peak of the selling season, 85 sets of buyers are used. Under normal operating procedures these 85 set of buyers could buy more than twice the redrying capacity of the industry. Consequently, it becomes necessary to declare sales holidays and reduce the number of selling hours per day and days per week in an attempt to limit sales to redrying capacity.

As in burley marketing, allocation of sales to each flue-cured auction warehouse is usually based on previous sales data and warehouse floor space. The use of floor space in determining allowable sales volume results in excess warehouse capacity and underutilization of floor space. This method of allocating sales time resulted in 16 additional warehouses opening in the flue-cured belt during 1970, even though there was already a huge surplus of floor space. According to floor space data available for about 40 percent of the market, 250 square feet are available per basket. By contrast, flue-cured sales in Ontario, Canada, used only 15 square feet, or only about one-twentieth the amount of floor space used in U.S. markets to sell a like amount.

Beginning in 1966, the maximum allowable weight per basket for flue-cured was reduced from 300 to 200 pounds in an effort to slow the flow of tobacco through the marketing system. Sales per set of buyers during the 1970 season were limited to 500 baskets and 76,000 pounds per hour, and sales on nearly all days were limited to 4½ hours or less, and some to less than 2 hours. In addition, none of the markets outside of the Georgia-Florida area operated more than a 4-day week. Even with these additional restrictions, a market holiday was called the second week in September, closing all markets except for 3 days of sales in South Carolina. These restrictions on size of sale, sales per hour, number of sale hours and days, and the declaration of sale holidays considerably increase the costs of maintaining a set of buyers in the market and reduces their productivity. Less than 25 percent of the number of buyers operating at the peak of the season could supply the redrying capacity for U.S. flue-cured tobacco, if a system similar to that used in Canadian markets were adopted.

Very often flue-cured tobacco prices go down as the marketing season progresses. This expected price decline, along with other risks in farm storage, gives the farmer an incentive to place his tobacco on the warehouse floor as soon as possible. For example, about 20 percent of the tobacco sold on the Georgia-Florida markets, the first market; to open, comes from the Carolinas and Virginia.

For years, many flue-cured auction warehouses have accepted producers' tobacco on a first-come, first-served basis. This often resulted in long lines of trucks waiting for days to be unloaded into the warehouse. Waiting with tobacco exposed to the weather on trucks has been one of the largest and most frequent complaints by farmers. Recently, most warehouses have offered advanced scheduling for delivery to the warehouse in an effort to alleviate this problem. But without overall coordination, this may result in farmers scheduling space in several warehouses and reserving more space than they use.

In contrast to Ontario producers who pay about 1 percent of the tobacco value for marketing charges, American flue-cured producers pay about 3 percent. This difference in marketing charges would have amounted to \$17 million in 1970 for flue-cured alone. Total marketing charges to American flue-cured producers in 1970 were approximately \$26 million.

Factors Affecting Future Markets

Technological Developments

Technological changes that will influence the characteristics of the tobacco marketing system over the next several years are occurring in the production, leaf marketing, processing, and manufacturing sectors of the industry. The anticipated impact of mechanizing the harvest of flue-cured tobacco has received more recent attention than perhaps any other technological change affecting the tobacco industry.

A major result of mechanization will be a dramatic increase in the size of production units, accompanied by an equally dramatic decrease in the number of such units. Recent estimates indicate that a minimum of about 40 acres are required for an economically efficient flue-cured production unit using a fully mechanized harvesting system. This compares with a mean tobacco acreage of 8.9 in the North Carolina Coastal Plain in 1969 and 4.5 in the North Carolina-Virginia Piedmont area in 1964.³

The current tobacco marketing system is organized to serve a large number of relatively small producers. With complete mechanization of production, the present flue-cured tobacco crop, requiring approximately 575,000 acres, could be produced on fewer than 15,000 farms. Currently, over 100,000 farms produce flue-cured tobacco. Thus, a major change may occur in the number and size of tobacco producers as a result of mechanization, which in turn would create a need for change in the tobacco marketing system.

Mechanization will also affect the location of production. Production will tend to concentrate more heavily in areas which are adaptable to large-scale mechanized operations, and move out of areas less

³ Op. cit. *AER-169*, pages 20,21.

suitable for mechanized farming. It is likely, for instance, that mechanization of flue-cured harvest would improve the competitive position of the Coastal Plain areas relative to the Piedmont, with the result that a substantial decline in tobacco production could be expected in the Piedmont area.

Technological innovation in the auction warehouse method of selling tobacco has been rather limited. It has consisted primarily of substituting mechanical aids, such as chain hoists, fork lifts, and roller conveyors for hand labor in setting up and breaking the sales. Past efforts to improve marketing have concentrated on attempting to improve physical conditions, operating techniques, and labor productivity within the existing sales warehouses, rather than any basic change in the organization of markets or methods of selling. Thus, the basic method of selling tobacco has been left relatively unchanged.

The mechanized tobacco producer of the future will require different marketing services than are available to today's grower. The average flue-cured grower of today, for instance, is able to operate within a marketing system that requires him to sell his crop in units of 200 pounds or less. The mechanized grower of the future, however, would find it extremely costly and time consuming to sell his crop in such a manner.

If it is to remain viable in the future, the auction warehouse system must restructure and orient its operations to more efficiently serve the marketing needs of both the large mechanized producers and the buying companies who will form its clientele. At a minimum, this would entail revising some current market operating procedures such as restrictions on package size, limits on rates of sale, and the practice of declaring market holidays. It would also require reducing the number of markets, sales, and warehouses to the point that the remaining markets could operate at or near capacity throughout the marketing season without overtaxing the receiving and redrying capacity of the processing sector.

Locational changes in production brought on by mechanization would result in some restructuring of the marketing sector, as warehouses in areas unsuitable to mechanized production close down. Such forced structural changes, however, will make only a minimum contribution to alleviating the anticipated problems of the marketing sector.

If the auction warehouse sector proves unable or unwilling to adjust its operations to the needs of a mechanized production system, tobacco growers and buying companies may initiate marketing changes on their own. Such changes could very well take some form other than auction sales. Contract production of tobacco, which is already occurring on a limited basis, is one possible alternative.

There are several potential advantages to both producers and buying companies of entering into contractual arrangements. First, contract production would allow companies to match deliveries to their processing capacity, thereby improving the operating

efficiency of their plants. Growers would avoid the costly, time consuming procedure involved in getting their tobacco on a sales floor and sold. Also, the need for growers to market their tobacco at the earliest possible time would be eliminated.

Secondly, contracting would allow buying companies to achieve a greater degree of control over cultural and other tobacco production practices. Thus, conceivably, they would be able to exert greater control over the quality of tobacco produced. This factor may become critical as the controversy continues over chemical residues on crops for human consumption.

Technological changes in the manufacturing of cigarettes and other tobacco products have resulted in a significant decline in tobacco usage per unit of output over the past 2 decades. This decline has resulted largely from the increasing use of filters, changes in cigarette dimensions, and more complete utilization of the tobacco leaf. Further decline in tobacco usage from these sources will likely be limited. However, more recent innovations, such as freeze dried and puffed tobacco which increase filling capacity, and the possible introduction of non-tobacco cellulosic material as a partial replacement for tobacco in cigarettes, indicates a continuation of the long-term down trend in tobacco usage per unit of output. These innovations, together with static or declining per capita consumption rates for tobacco products, will result in further decreases in domestic demand for leaf tobacco. The result of this will be a continuing decline in the quantity of tobacco moving through the leaf marketing system.

Domestic Institutional Factors

The major domestic institutional factors that will affect tobacco marketing in the foreseeable future are tobacco production controls, price support programs, tobacco taxing policies, and the smoking and health issue.

Certain changes would be required in the production control program to make it possible to achieve a high level of mechanized production and harvesting. Specifically, these would include modification of the lease and transfer provisions to allow production and marketing quotas to move across county lines and to allow outright sale of quotas. These changes would establish the minimum conditions for allowing tobacco production to move to areas of greatest comparative advantage and for aggregation of efficient size production units. The Department of Agriculture has on numerous occasions recommended that these modifications be made in the tobacco marketing quota provisions of the Agricultural Adjustment Act of 1938. Legislation was enacted in 1971 permitting allotments of two minor types of tobacco produced in Virginia to be transferred across county lines.

Taxation of tobacco products has long been a significant revenue source for State governments. Until recently taxes were viewed primarily as sources of

income. There is another point of view, however, related to the smoking and health issue, that views tobacco taxes as a means of helping to limit or reduce the consumption of tobacco products. State cigarette taxes up to 21 cents per pack are reaching levels that have a definite suppressive effect on consumption. In addition, 286 local governments impose their own taxes on top of State and Federal taxes. New York City now has a differential tax rate which taxes cigarettes on the basis of their tar and nicotine content. The intent of this tax is to suppress the consumption of high tar and nicotine brands. If this type of tax proves successful, we will almost certainly see it adopted by other jurisdictions.

These developments on the tax front will affect the marketing of tobacco in two ways. First, by suppressing the consumption of tobacco products, they will have the effect of reducing the demand for leaf tobacco, and thus the demand for marketing services. Second, penalty tax rates applicable to high tar and nicotine cigarettes may alter the relative values of different grades and types of leaf in favor of the lower nicotine content leaf. They also could have implications for the tobacco price support structure by altering the relative value of grades and types in the manufacture of consumer products.

Recently, various attempts have been made to discourage the use of tobacco products, mainly cigarettes, through various means. These include limitations on cigarette advertising, anti-smoking educational programs, and efforts to reduce the opportunities to smoke, such as restricting smoking to specific areas of public transportation conveyances and public buildings. The Surgeon General recently announced a program to study the effects of tobacco smoke on nonsmokers.

International Factors

International factors that will influence tobacco

marketing include new political and economic alignments, and increasing competition from foreign producers. The entry of Great Britain, and other Western European countries into the Common Market, and the reestablishment of relations between Britain and Rhodesia are the major political factors. Both of these developments point toward reduced foreign demand for U.S. grown leaf.

The common agricultural policy adopted for tobacco in 1970 by the European Economic Community (EC) discriminates against imports by providing production subsidies to EC producers and a buyers' premium that reduces the price of EC grown tobacco relative to imported tobacco. This premium amounts to about 30 to 35 cents per pound for burley and flue-cured tobacco. The expansion of the Common Market to include the United Kingdom will place U.S. tobacco at a competitive disadvantage in this major export market.

With the reestablishment of relations between Britain and Rhodesia, the trade for Rhodesian exports may be reestablished. Rhodesia can be expected to try to regain its earlier position as a major tobacco exporter.

U.S. producers can anticipate continued strong competition from other foreign producers, especially developing nations, for which tobacco is a desirable crop. Tobacco production utilizes large amounts of surplus labor. Its production also is encouraged to provide a source of foreign exchange for these capital-short economies.

These international factors indicate that the U.S. share of world tobacco exports may continue to decline and the United States will be hard pressed to maintain its present level of exports. Thus, the forces at work in the international area will tend to compound the anticipated domestic decline in demand for leaf tobacco, with a consequent further reduction in the demand for marketing services.

Table 8.--The market basket of farm foods by product group: Retail cost, farm value, farm-retail spread, and farmer's share of retail cost, quarterly 1970-71

Item	1970	1971			
	IV	I	II	III	IV
----- Dollars -----					
Retail cost					
Market basket	1,207.47	1,217.58	1,244.76	1,260.90	1,253.61
Meat	364.95	366.06	372.47	380.70	382.85
Dairy	220.82	221.12	223.94	225.58	225.65
Poultry	48.03	48.72	49.91	51.33	49.39
Eggs	41.19	40.71	36.87	37.13	37.52
Bakery and cereal:					
All ingredients	188.27	190.46	192.63	193.29	191.71
Grain	---	---	---	---	---
Fresh fruits	50.14	49.91	56.11	62.31	53.54
Fresh vegetables	74.58	77.32	88.00	82.54	84.26
Proc. fruits and veg.	120.91	122.17	123.62	125.84	125.91
Fats and oils	42.18	43.43	44.13	44.71	45.24
Miscellaneous	56.40	56.68	57.08	57.47	57.54
Farm value					
Market basket	442.32	467.27	474.16	482.30	483.98
Meat	179.67	197.73	201.14	210.54	214.87
Dairy	105.05	105.91	105.42	104.90	105.25
Poultry	21.19	23.71	23.86	25.44	21.64
Eggs	24.90	23.74	20.91	21.18	21.29
Bakery and cereal:					
All ingredients	30.39	30.25	30.61	29.87	29.47
Grain	22.76	22.65	23.10	22.06	21.78
Fresh fruits	14.90	14.63	17.54	18.76	16.68
Fresh vegetables	21.10	26.43	29.41	24.41	28.77
Proc. fruits and veg.	22.67	22.45	22.87	23.04	22.36
Fats and oils	13.82	13.47	13.29	15.12	14.64
Miscellaneous	8.63	8.95	9.11	9.04	9.01
Farm-retail spread					
Market basket	765.15	750.31	770.60	778.60	769.63
Meat	185.28	168.33	171.33	170.16	167.98
Dairy	115.77	116.21	118.52	120.68	120.40
Poultry	26.84	25.01	26.05	25.89	27.75
Eggs	16.29	16.97	15.96	15.95	16.23
Bakery and cereal:					
All ingredients	157.88	160.21	162.02	163.42	162.24
Grain	---	---	---	---	---
Fresh fruits	35.24	35.28	38.57	43.55	36.86
Fresh vegetables	53.48	50.89	58.59	58.13	55.49
Proc. fruits and veg.	98.24	99.72	100.75	102.80	103.55
Fats and oils	28.36	29.96	30.84	29.59	30.60
Miscellaneous	47.77	47.73	47.97	48.43	48.53
Farmer's share					
----- Percent -----					
Market basket	37	38	38	38	39
Meat	49	54	54	55	56
Dairy	48	48	47	47	47
Poultry	44	49	48	50	44
Eggs	60	58	57	57	57
Bakery and cereal:					
All ingredients	12	12	12	11	11
Grain	16	16	16	15	15
Fresh fruits	30	29	31	30	31
Fresh vegetables	28	34	33	30	34
Proc. fruits and veg.	19	18	18	18	18
Fats and oils	33	31	30	34	32
Miscellaneous	15	16	16	16	16

Table 9.--Farm food products: Retail price, farm value, farm-retail spread, and farmer's share of retail price, October-December 1971, July September 1971, and October-December 1970.

Product 1/ Retail unit:	Retail price				Farm value				Farm-retail spread				Farmer's share			
	IV : 1971	III : 1971	IV : 1970	IV : 1971	III : 1971	IV : 1970	IV : 1971	IV : 1970	IV : 1971	III : 1971	IV : 1970	IV : 1971	IV : 1971	III : 1971	IV : 1971	IV : 1970
Beef, Choice	106.6	105.4	97.3	69.9	68.6	57.9	36.7	36.8	39.4	66	65	60				
Lamb, Choice	112.6	112.1	106.1	56.1	59.9	55.9	56.5	52.2	50.2	50	53	53				
Pork	71.9	71.3	71.3	35.2	33.7	28.4	36.7	37.6	42.9	49	47	40				
Butter	87.5	87.5	87.5	58.0	57.3	62.4	29.5	30.2	25.1	66	65	71				
Cheese, American processed	53.2	53.1	51.1	22.8	22.8	22.5	30.4	30.3	28.6	43	43	44				
Ice cream	85.7	85.9	85.3	28.0	27.5	29.0	57.7	58.4	56.3	33	32	34				
Milk, evaporated	20.1	20.2	19.3	9.2	9.2	8.7	10.9	11.0	10.6	46	46	45				
Milk, fresh:																
Home delivered	68.1	67.9	66.9	29.7	29.5	29.2	38.4	38.4	37.7	44	43	44				
Sold in stores	59.2	59.2	58.0	29.7	29.5	29.2	29.5	29.7	28.8	50	50	50				
Chicken, frying	40.5	42.3	39.2	17.4	20.9	17.0	23.1	21.4	22.2	43	49	43				
Turkey	55.4	55.4	52.3	28.6	28.1	30.8	26.8	27.3	21.5	52	51	59				
Eggs, large Grade A	52.0	51.5	57.1	29.5	29.4	34.5	22.5	22.1	22.6	57	57	60				
Bread, white:																
All ingredients	24.8	25.2	24.7	3.5	3.5	3.5	21.3	21.7	21.2	14	14	14				
Wheat	--	--	--	2.6	2.6	2.7	--	--	--	10	10	11				
Bread, whole wheat	39.5	39.3	37.6	3.1	3.1	3.1	36.4	36.2	34.5	8	8	8				
Cookies, sandwich	54.8	55.1	53.0	6.6	6.8	6.4	48.2	48.3	46.6	12	12	12				
Corn flakes	32.2	33.1	33.5	1.8	2.2	2.4	30.4	30.9	31.1	6	7	7				
Flour, white	59.9	60.1	59.0	20.4	20.6	21.3	39.5	39.5	37.7	34	34	36				
Rice, long grain	24.0	24.0	23.3	7.7	7.6	7.4	16.3	16.4	15.9	32	32	32				
Apples	20.7	27.4	19.4	7.3	7.7	6.6	13.4	19.7	12.8	35	28	34				
Grapefruit	18.1	23.2	15.9	4.4	6.4	2.8	13.7	16.8	13.1	24	28	18				
Lemons	33.4	32.9	32.2	9.7	9.3	9.9	23.7	23.6	22.3	29	28	31				
Oranges	99.7	100.6	93.8	23.6	26.0	21.7	76.1	74.6	72.1	24	26	23				
Cabbage	13.8	12.4	11.9	4.7	3.5	3.0	9.1	8.9	8.9	34	28	25				
Carrots	19.7	23.9	16.6	7.5	8.4	5.3	12.2	15.5	11.3	38	35	32				
Celery	22.0	19.7	18.9	8.3	5.7	4.8	13.7	14.0	14.1	38	29	25				
Cucumbers	25.7	22.4	22.6	7.5	7.1	8.1	18.2	15.3	14.5	29	32	36				
Lettuce	40.5	32.9	31.5	16.9	9.6	9.0	23.6	23.3	22.5	42	29	29				
Onions	14.6	15.4	13.5	4.7	4.8	3.2	9.9	10.6	10.3	32	31	24				
Peppers, Green	45.0	40.5	36.9	16.1	11.7	11.6	28.9	28.8	25.3	36	29	31				
Potatoes	81.5	91.9	80.9	18.6	23.5	20.1	62.9	68.4	61.8	23	26	25				
Tomatoes	46.7	43.0	41.0	20.5	16.1	15.1	26.2	26.9	25.9	44	37	37				

Continued--

Table 9.--Farm food products: Retail price, farm value, farm-retail spread, and farmer's share of retail price, October-December 1971, July-September 1971, and October-December 1970--Continued

Product 1/	Retail unit	Retail price				Farm value				Farm-retail spread				Farmer's share			
		IV : 1971	III : 1971	IV : 1970	IV : 1971	IV : 1971	III : 1971	IV : 1970	IV : 1971	IV : 1971	III : 1971	IV : 1970	IV : 1971	IV : 1971	III : 1971	IV : 1970	IV : 1971
:	:	Cents								Percent							
Peaches, canned	No. 2½ can :	36.9	37.0	36.1	7.3	7.4	7.4	29.6	28.7	20	20						
Pears, canned	No. 2½ can :	53.0	53.2	51.3	8.5	10.8	13.1	44.5	38.2	16	20						
Bests, canned	No. 303 can :	19.7	19.6	18.8	1.3	1.3	1.3	18.4	17.5	7	7						
Corn, canned	No. 303 can :	24.7	25.0	24.8	2.7	2.7	2.6	22.0	22.2	11	10						
Peas, canned	No. 303 can :	26.5	26.5	25.6	4.1	4.0	3.9	22.4	21.7	15	15						
Tomatoes, canned	No. 303 can :	22.5	22.7	22.3	2.7	2.6	2.6	19.8	19.7	12	12						
Lemonade, frozen	6-ounce can :	14.2	14.0	13.4	3.4	3.4	3.3	10.8	10.6	24	25						
Orange juice, frozen	6-ounce can :	24.9	24.5	21.8	8.0	8.0	7.3	16.9	14.5	32	33						
Potatoes, french fried, frozen	9 ounces :	16.1	16.4	16.4	2.5	2.6	2.8	13.6	13.6	16	17						
Peas, frozen	10 ounces :	22.2	22.2	21.4	3.8	3.8	3.7	18.4	17.7	17	17						
Beans, dried	Pound :	23.8	23.0	19.4	11.6	11.8	8.9	12.2	10.5	49	46						
Margarine	Pound :	32.9	32.9	31.1	10.9	11.4	10.3	22.0	20.8	33	33						
Peanut butter	12-oz. jar :	50.1	49.5	49.0	16.7	15.5	15.1	33.4	33.9	33	31						
Salad and cooking oil	24-oz. bottle :	65.2	64.2	59.1	16.9	17.8	16.3	48.3	42.8	26	28						
Vegetable shortening	3 pounds :	98.4	97.5	91.7	38.1	39.9	36.1	60.3	55.6	39	41						
Sugar	5 pounds :	68.7	68.5	66.8	29.6	29.7	28.0	39.1	38.8	43	42						
Spaghetti, canned	1½-oz. can :	19.1	19.1	18.9	2.0	2.0	2.1	17.1	16.8	10	11						

11/ Primary products in the farm-food market basket.

Table 10--Farm food products: Retail price, farm value, byproduct allowance, farm-retail spread, and farmer's share of retail price, fourth quarter 1971

Product	Farm equivalent	Retail unit	Retail price	Gross farm value	Byproduct allowance	Net farm value	Farm-retail spread	Farmer's share
Beef, Choice grade	2.28 lb. Choice cattle	Pound	106.6	74.6	4.7	69.9	36.7	66
Lamb, Choice grade	2.47 lb. lamb	Pound	112.6	61.7	5.6	56.1	56.5	50
Pork	1.97 lb. hog	Pound	71.9	38.0	2.8	35.2	36.7	49
Butter	Milk for butter	Pound	87.5	109.5	51.5	58.0	29.5	66
Cheese, American proc.	Milk for American cheese ..	$\frac{1}{2}$ pound	53.2	23.6	.8	22.8	30.4	43
Ice cream	Cream, milk, and sugar	$\frac{1}{2}$ gallon	85.7	--	--	28.0	57.7	33
Milk, evaporated	Milk for evaporating	$1\frac{1}{2}$ -ounce can	20.1	9.4	.2	9.2	10.9	46
Milk, fresh:								
Home delivered	4.39 lb. Class I milk	$\frac{1}{2}$ gallon	68.1	--	--	29.7	38.4	44
Sold in stores	4.39 lb. Class I milk	$\frac{1}{2}$ gallon	59.2	--	--	29.7	29.5	50
Chicken, frying	1.41 lb. broiler	Pound	40.5	--	--	17.4	23.1	43
Turkey	1.28 lb. turkey	Pound	55.4	--	--	28.6	27.1	52
Eggs, Grade A Large	1.03 dozen	Dozen	52.0	--	--	29.5	22.5	57
Bread, white:								
All ingredients	U.S. farm ingredients $\frac{2}{3}$..	Pound	24.8	--	--	3.5	21.3	14
Wheat .....	.867 lb. wheat $\frac{2}{3}$	Pound	--	3.0	.4	2.6	--	10
Bread, whole wheat .....	.708 lb. wheat $\frac{2}{3}$	Pound	39.5	--	--	3.1	36.4	8
Cookies, sandwich .....	.528 lb. wheat $\frac{2}{3}$	Pound	54.8	--	--	6.6	48.2	12
Corn flakes	2.87 lb. yellow corn $\frac{3}{4}$..	12 ounces	32.2	5.4	3.6	1.8	30.4	6
Flour, wheat	6.85 lb. wheat $\frac{2}{3}$	5 pounds	59.9	23.6	3.2	20.4	39.5	34
Rice, long grain	1.59 lb. rough rice	Pound	24.0	8.4	.7	7.7	16.3	32
Apples	1.04 lb. apples	Pound	20.7	--	--	7.3	13.4	35
Grapefruit	1.03 grapefruit	Each	18.1	--	--	4.4	13.7	24
Lemons	1.04 lb. lemons	Pound	33.4	--	--	9.7	23.7	29
Oranges	1.03 dozen oranges	Dozen	99.7	--	--	23.6	76.1	24
Cabbage	1.08 lb. cabbage	Pound	13.8	--	--	4.7	9.1	34
Carrots	1.03 lb. carrots	Pound	19.7	--	--	7.5	12.2	38
Celery	1.08 lb. celery	Pound	22.0	--	--	8.3	13.7	38
Cucumbers	1.09 lb. cucumbers	Pound	25.7	--	--	7.5	18.2	29
Lettuce	1.88 lb. lettuce	Head	40.5	--	--	16.9	23.6	42
Onions	1.06 lb. onions	Pound	14.6	--	--	4.7	19.9	32
Peppers, green	1.09 lb. peppers	Pound	45.0	--	--	16.1	28.9	36
Potatoes	10.42 lb. potatoes	10 pounds	81.5	--	--	18.6	62.9	23
Tomatoes	1.18 lb. tomatoes	Pound	46.7	--	--	20.5	26.2	44

Continued---

Table 10--Farm food products: Retail price, farm value, byproduct allowance, farm-retail spread, and farmer's share of retail price, fourth quarter 1971--Continued

Product	Farm equivalent	Retail unit	Retail price	Gross farm value	Byproduct allowance	Net farm value	Farm-retail spread	Farmer's share
Peaches, canned	1.52 lb. Calif.							
	cling	No. 2½ can	36.9	--	--	7.3	29.6	20
Pears, canned	1.81 lb. pears for canning	No. 2½ can	53.0	--	--	8.5	44.5	16
Beets, canned	1.19 lb. beets for canning	No. 303 can	19.7	--	--	1.3	18.4	7
Corn, canned	2.25 lb. sweet corn	No. 303 can	24.7	--	--	2.7	22.0	11
Peas, canned	.725 lb. peas for canning	No. 303 can	26.5	--	--	4.1	22.4	15
Tomatoes, canned	1.515 lb. tomatoes for canning	No. 303 can	22.5	--	--	2.7	19.8	12
Lemonade, frozen	.834 lb. lemons for processing	6-ounce can	14.2	--	--	3.4	10.8	24
Orange juice, frozen	3.47 lb. oranges	6-ounce can	24.9	--	--	8.0	16.9	32
Potatoes, french fried, frozen	1.41 lb. potatoes	9 ounces	16.1	--	--	2.5	13.6	16
Peas, frozen	.68 lb. peas for canning	10 ounces	22.2	--	--	3.8	18.4	17
Beans, dried	1.04 lb. dry beans	Pound	23.8	--	--	11.6	12.2	49
Margarine	Soybeans, cottonseed, and milk	Pound	32.9	23.5	12.6	10.9	22.0	33
Peanut butter	1.21 lb. peanuts	12-ounce jar	50.1	--	--	16.7	33.4	33
Salad and cooking oil	Soybeans, cottonseed, and corn	24-oz. bottle	65.2	43.4	26.5	16.9	48.3	26
Vegetable shortening	Soybeans and cottonseed	3 pounds	98.4	83.1	45.0	38.1	60.3	39
Sugar	Sugar beets and cane	5 pounds	68.7	31.5	1.9	4/29.6	4/39.1	4/43
Spaghetti, canned	Wheat, tomatoes, cheese, and sugar	15½-ounce can	19.1	--	--	2.0	17.1	10

1/ Payment to farmers for equivalent quantities of farm products (gross farm value) minus imputed value of byproducts obtained in processing.

2/ Farm values for wheat products are based on market price of wheat received by farmers plus cost of the marketing certificate to millers. This cost is returned to farmers complying with the Wheat Program.

3/ Farm value based on market price of corn received by farmers; no allowance made for price support payment received by farmers who comply with the Federal Feed Grain Program.

4/ Net farm value including Government payments to producers was 33.5 cents with a farmer's share of 49 percent. Farm-retail spread less Government processor tax was 36.4 cents.

Table 11.--The market basket of farm foods by product group: Retail cost, farm value, farm-retail spread, and farmer's share of retail costs, 1967-71

Item	1967	1968	1969	1970	1971
Dollars					
Retail cost					
Market basket	1,080.64	1,118.54	1,175.92	1,223.39	1,244.21
Meat	319.61	328.57	363.17	379.65	375.52
Dairy	196.54	201.78	207.99	217.94	224.32
Poultry	46.10	47.78	50.59	49.56	49.84
Eggs	35.45	38.09	44.72	44.13	38.05
Bakery and cereal:					
All ingredients	170.73	171.48	175.65	184.84	192.02
Grain	---	---	---	---	---
Fresh fruits	46.01	54.39	51.49	51.31	55.47
Fresh vegetables	68.52	72.50	75.96	81.09	83.03
Proc. fruits and veg.	108.97	115.44	116.02	118.75	124.38
Fats and oils	38.78	37.88	37.86	40.67	44.38
Miscellaneous	49.93	50.63	52.47	55.45	57.20
Farm value					
Market basket	419.07	440.92	480.37	476.03	476.93
Meat	180.48	187.31	214.28	209.33	206.07
Dairy	91.51	95.04	99.80	103.79	105.37
Poultry	22.68	24.21	25.87	23.04	23.66
Eggs	20.95	23.40	29.78	27.64	21.78
Bakery and cereal:					
All ingredients	29.32	27.60	27.68	29.38	30.05
Grain	23.37	21.85	21.33	22.10	22.40
Fresh fruits	14.26	18.89	15.86	14.38	16.90
Fresh vegetables	21.92	23.84	25.08	25.72	27.26
Proc. fruits and veg.	19.75	23.01	23.87	22.21	22.68
Fats and oils	10.78	9.77	9.98	12.12	14.13
Miscellaneous	7.42	7.85	8.17	8.42	9.03
Farm-retail spread					
Market basket	661.57	677.62	695.55	747.36	767.28
Meat	139.13	141.26	148.89	170.32	169.45
Dairy	105.03	106.74	108.19	114.15	118.95
Poultry	23.42	23.57	24.72	26.52	26.18
Eggs	14.50	14.69	14.94	16.49	16.27
Bakery and cereal:					
All ingredients	141.41	143.88	147.97	155.46	161.97
Grain	---	---	---	---	---
Fresh fruits	31.75	35.50	35.63	36.92	38.57
Fresh vegetables	46.60	48.66	50.88	55.37	55.77
Proc. fruits and veg.	89.22	92.43	92.15	96.55	101.70
Fats and oils	28.00	28.11	27.88	28.55	30.25
Miscellaneous	42.51	42.78	44.30	47.03	48.17
Farmer's share					
Percent					
Market basket	39	39	41	39	38
Meat	56	57	59	55	55
Dairy	47	47	48	48	47
Poultry	49	51	51	46	47
Eggs	59	61	67	63	57
Bakery and cereal:					
All ingredients	17	16	16	16	16
Grain	14	13	12	12	12
Fresh fruits	31	35	31	28	30
Fresh vegetables	32	33	33	32	33
Proc. fruits and veg.	18	20	21	19	18
Fats and oils	28	26	26	30	32
Miscellaneous	15	16	16	15	16

Table 12--Farm food products: Retail price, farm value, farm-retail spread, and farmer's share of retail price, 1969, 1970, and 1971.

Product 1/	Retail unit	Retail price			Farm value			Farm-retail spread			Farmer's share		
		1969	1970	1971 2/	1969	1970	1971 2/	1969	1970	1971 2/	1969	1970	1971 2/
Cents													
Percent													
Beef, Choice	Pound	96.2	98.6	104.3	62.2	61.5	67.9	34.0	37.1	36.4	65	62	65
Lamb, Choice	Pound	100.7	105.5	109.9	59.3	58.7	57.2	41.4	46.8	52.7	59	56	52
Pork	Pound	74.3	78.0	70.3	42.3	39.5	32.3	32.0	38.5	38.0	57	51	46
Butter	Pound	84.6	86.6	87.6	61.1	61.9	58.9	23.5	24.7	28.7	72	71	67
Cheese, American processed	1/2 pound	47.0	50.4	52.8	20.7	22.2	22.7	26.3	28.2	30.1	44	44	43
Ice cream	1/2 gallon	81.2	84.5	85.4	27.3	28.5	28.1	53.9	56.0	57.3	34	34	33
Milk, evaporated	14 1/2-ounce can	17.6	18.7	19.8	8.5	8.8	9.1	9.1	9.9	10.7	48	47	46
Milk, fresh:													
Home delivered	1/2 gallon	62.9	65.9	67.7	27.7	28.8	29.6	35.2	37.1	38.1	44	44	44
Sold in stores	1/2 gallon	55.1	57.4	58.9	27.7	28.8	29.6	27.4	28.6	29.3	50	50	50
Chicken, frying	Pound	42.1	40.6	41.0	21.3	18.5	19.3	20.8	22.1	21.7	51	46	47
Turkey	Pound	49.1	56.1	54.7	27.5	30.2	27.8	21.6	25.9	26.9	56	54	51
Eggs, large Grade A ..	Dozen	62.0	61.2	52.8	41.3	38.3	30.2	20.7	22.9	22.6	67	63	57
Bread, white:													
All ingredients	Pound	23.0	24.2	25.0	3.3	3.4	3.5	19.7	20.8	21.5	14	14	14
Wheat	Pound	--	--	--	2.5	2.6	2.6	--	--	--	11	11	10
Bread, whole wheat ..	Pound	--	--	38.9	--	--	3.1	--	--	35.8	--	--	8
Cookies, sandwich	Pound	49.8	52.0	54.5	5.3	5.9	6.6	44.5	46.1	47.9	11	11	12
Corn flakes	12 ounces	31.3	32.2	33.4	2.0	2.2	2.2	29.3	30.0	31.2	6	7	7
Flour, white	5 pounds	58.0	58.8	59.9	20.0	20.6	20.9	38.0	38.2	39.0	34	35	35
Rice, long grain	Pound	22.5	23.1	23.8	7.0	7.3	7.6	15.5	15.8	16.2	31	31	32
Apples	Pound	23.8	21.8	23.4	8.0	6.0	7.1	15.8	15.8	16.3	34	28	30
Grapefruit	Each	15.3	17.0	18.4	3.4	4.0	4.7	11.9	13.0	13.7	22	24	26
Lemons	Pound	29.0	31.2	32.9	9.7	8.9	9.8	19.3	22.3	23.1	33	29	30
Oranges	Dozen	83.3	85.9	94.1	18.9	20.3	23.8	64.4	65.6	70.3	23	24	25
Cabbage	Pound	12.4	14.6	13.4	3.7	4.6	4.4	8.7	10.0	9.0	30	32	33
Carrots	Pound	17.9	17.6	20.6	6.5	5.3	7.6	11.4	12.3	13.0	36	30	37
Celery	Pound	18.6	20.2	19.4	6.3	6.1	5.8	12.3	14.1	13.6	34	30	30
Cucumbers	Pound	26.9	27.5	28.4	9.3	10.1	10.4	17.6	17.4	18.0	35	37	37
Lettuce	Head	31.0	29.8	34.0	11.5	9.4	12.2	19.5	20.4	21.8	37	32	36
Onions	Pound	13.7	16.1	14.3	3.9	5.2	4.3	9.8	10.9	10.0	28	32	30
Peppers, green	Pound	41.3	51.7	52.8	15.9	20.8	22.1	25.4	30.9	30.7	38	40	42
Potatoes	10 pounds	81.0	89.0	85.9	23.4	25.7	21.6	57.6	63.3	64.3	29	29	25
Tomatoes	Pound	42.0	41.9	46.5	15.6	15.0	19.3	26.4	26.9	27.2	37	36	42

Continued--

Continued--

SELECTED NEW PUBLICATIONS

1. "Farm-Retail Spreads for Food Products," U.S. Dept. of Agr., Econ. Res. Ser., Misc. Pub. No. 741, Revised January 1972.

Revised farm-retail spreads for a "market basket" of domestic farm-originated foods and for 46 individual foods are presented. Movements in these statistics over time are analyzed; data and techniques employed in their development are described and evaluated. Current data for tables appear in the quarterly "Marketing and Transportation Situation."

2. "An Interregional Analysis of the U.S. Grain-Marketing Industry, 1966/67," U.S. Dept. of Agr., Econ. Res. Ser. (in cooperation with Oklahoma State Univ.), Tech. Bull. No. 1444, November 1971.

A multiproduct transshipment model was developed to analyze storage and processing in the U.S. grain-marketing industry. The model was extended to include the four quarters of the year to study the utilization of regional storage capacity and account for the seasonality of grain marketing. This type of model, encompassing storage and processing in a multiperiod framework, has not been previously employed on a national level. Through use of the model, optimum geographical flows that minimized the total cost of storage, acquisition, processing, and distribution were determined for five types of grain and two types of flour.

3. "A Systems Model of the U.S. Rice Industry," U.S. Dept. of Agr., Econ. Res. Ser., Tech. Bull. No. 1453, November 1971.

This study is an initial attempt by the Fibers and Grains Branch, Economic Research Service, to apply a quantitative analysis that encompasses the major market subsectors of the rice industry from farm to consumer. The basic systems model design resulting from this study will be adapted for similar studies of other grains and for cotton. Also, future work calls for application of the model to the problems of individual firms.

4. "Prices, Margins, and Farm Value for Canned and Frozen Fruits, Vegetables, and Juices, Sold in Selected Markets, 1965/66-1969/70," U.S. Dept. of Agr., Econ. Res. Ser., Stat. Bull. No. 477, October 1971.

Prices and margins for 21 processed fruit and vegetable products sold in selected major cities during 1965/66-1969/70 are examined. Retail prices, processor prices, farm values, and the total marketing margin increased for most processed fruits and vegetables during the 5 years. However, farm values and the marketing margin expressed as a percentage of retail price did not change much for most products. The total marketing margin for all processed products in the report averaged 78 percent of the retail price and the farm value 22 percent. The processor margin averaged 42 percent and the wholesaler and retailer margin was 36 percent.

: Single copies of these publications may be obtained free :
: from the Division of Information, Office of Management Services, :
: U.S. Department of Agriculture, Washington, D.C. 20250 :
:

UNITED STATES DEPARTMENT OF AGRICULTURE
WASHINGTON, D.C. 20250

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF
AGRICULTURE



OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

NOTICE: If you don't want future issues
of this ERS publication, check here ☐
and mail this sheet to the address below.

If your address should be changed, write your
new address on this sheet and mail it to:

Automated Mailing List Section
Office of Plant and Operations
U.S. Department of Agriculture
Washington, D.C. 20250

MTS-184

FEBRUARY 1972

3621 JENKIN150A412 18003 000
I JENKINS
AMER AGRL ECON DOC CTR
1505 SOUTH BLDG
WASHINGTON DC 20250